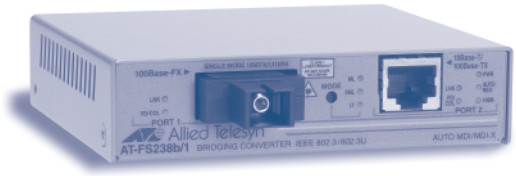


AT-FS238

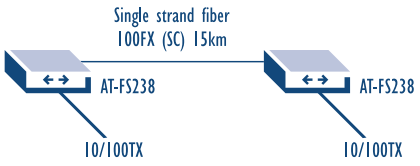
Fast Ethernet Single Strand Fiber Media Converter

AT-FS238A/y-xx
2-port single strand fiber media converter,
10/100TX (RJ-45) to 100FX (SC)
(1310nm TX/1550nm RX)
with 12vDC power supply
(Must be ordered in pairs with AT-FS238B)

AT-FS238B/y-xx
2-port single strand fiber media converter,
10/100TX (RJ-45) to 100FX (SC)
(1550nm TX/1310nm RX)
with 12vDC power supply
(Must be ordered in pairs with AT-FS238A)

POINT-TO-POINT ACCESS

Designed to be used in pairs in a network topology to provide point-to-point access, the AT-FS238 media converter is a 10/100Mbps copper to single-mode fiber media converter which can send and receive on single strand fiber (1310nm TX/1550nm RX or 1550nm TX/1310nm RX). The AT-FS238 converts 10/100TX (RJ-45) to 100FX (SC) and can extend distances up to 40km. Easy to install and requiring no software configuration, the compact, rack-mountable AT-FS238 comes with a choice of external power supplies. And, finally, both ports feature full- and half-duplex operation.



AUTO MDI, MDI-X

The AT-FS238 media converter features automatic MDI/ MDI-X. The 10/100TX (RJ-45) port determines the configuration of the ports on connected device and then configures itself. This feature enables users to use either crossover cables or straight-through cables when connecting device to the copper port.

SMART MISSING LINK™ (SML)

The Missing Link feature allows the ports on the media converter to pass the Link status of their connections to each other. When the media converter detects a problem with a port—such as the loss of connection to a node—it shuts down the connection to the other port, thereby notifying the node that the connection has been lost. The AT-FS238 also features Smart Missing Link™ (SML)—a feature that monitors network connections and provides notification when network segments fail, allowing network managers to quickly identify the source and location of failed segments and minimize downtime.

KEY FEATURES

- LEDs for unit & port status
- Auto MDI/MDI-X
- Mode selection button that toggles among Link Test, MissingLink, & Smart MissingLink
- DIP switches for port configuration
- Supports Half- & Full-Duplex operation
- Data packet forwarding & filtering at full wirespeed
  (10Mbps to 100Mbps, 100Mbps to 100Mbps, and 10Mbps to 10Mbps)
- Store & forward switching mode
- Automatic address learning & aging
- IEEE 802.3u compliant auto-negotiation
- External AC/DC power adapter
  (North America, Continental Europe, or United Kingdom)
- Rack-mountable using optional AT-MCR12, TRAY4, or TRAY1 chassis

AT-FS238

Fast Ethernet Single Strand Fiber Media Converter

STATUS INDICATORS

System LEDs:

Power	Indicates power is applied to the converter

Per fiber port:

Link	Indicates a valid receive link exists
Duplex	Indicates full- or half-duplex operation
Collision	Indicates collision during packet transmission on the port

Per copper port:

Link	Indicates a valid receive link exists
Speed	Indicates either 10 or 100Mbps operation
Auto	Indicates port is set for auto-negotiation
FD/Collision	Indicates collision during packet transmission on the port. Indicates full-duplex or half-duplex operation.

OPERATIONAL CHARACTERISTICS

Per fiber port:

Duplex	Selects either full- or half-duplex operation

Per copper port:

Auto	Selects auto-negotiation mode or manual setting
Duplex	Forces port to full- or half-duplex operation (Auto setting = manual only)
Speed	Forces port to 10 or 100Mbps operation (Auto setting = manual only)

OPERATIONAL MODE

Missing Link (ML)
Smart Missing Link™ (SML)
Link Test

Packet Buffer	28k per port
MAC address table	8k addresses
Forwarding/filtering rate	148,880pps for 100Mbps 14,880pps for 10Mbps
Latency	14.3 µsec (64 byte packet,100Mbps full-duplex)

FIBER OPTIC PORT SPECIFICATIONS

Fiber Optic Transmitter

Model	Fiber Type[1]	Fiber optic Diameter (Microns)	Optical Wavelength	Launch Power Min.	Avg.[3]	(dBm)[2] Max.
AT-FS238a/1	SMF (SC)	9/125	1310nm	-15.0	-11.0	-8.0
AT-FS238a/2	SMF (SC)	9/125	1310nm	-8.0	-5.0	-2.0
AT-FS238b/1	SMF (SC)	9/125	1550nm	-15.0	-11.0	-8.0
AT-FS238b/2	SMF (SC)	9/125	1550nm	-8.0	-5.0	-2.0

1. SMF = Single-mode fiber.
2. Launch power is measured at one meter from the transmitter.
3. Launch power (Avg.) is power coupled into a Single-mode fiber.

Fiber Optic Receiver

Model	Fiber Type[1]	Fiber optic Diameter (Microns)	Optical Wavelength	Receiver Sensitivity (dBm) Max.	Avg.	Saturation
AT-FS238a/1	SMF (SC)	9/125	1550nm	-30.0	n/a	-7.5
AT-FS238a/2	SMF (SC)	9/125	1550nm	-33.0	n/a	-2.0
AT-FS238b/1	SMF (SC)	9/125	1310nm	-30.0	n/a	-7.5
AT-FS238b/2	SMF (SC)	9/125	1310nm	-33.0	n/a	-2.0

1. SMF = Single-mode fiber.

Fiber Optic Datalink

Model	Fiber Type[1]	Minimum Power/Link Budget	Minimum Operating Distance[2]	Minimum Operating Distance[3]
AT-FS238a/1	9/125 SMF	6.0dB	0	15km (9.4mi)
AT-FS238a/2	9/125 SMF	16.0dB	0	40km (9.4mi)
AT-FS238b/1	9/125 SMF	6.0dB	0	15km (9.4mi)
AT-FS238b/2	9/125 SMF	16.0dB	0	40km (9.4mi)

1. SMF = Single-mode fiber.
2. The recommended mimimum range is stated in all cases where the maximum transmitter output power exceeds the receiver's saturation level. This is to prevent blinding or burning out of the optical receiver on the far-end mode.
3. Distance is calculated based on ideal situations without any other loss factor.

Fiber Optic Loss Specification (Benchmark)

Fiber Type[1]	Fiber optic Diameter	Optical Wavelength	Typical Loss Factor	Bandwidth
SMF (SC)	9/125(microns)	1310nm	0.4dBm	n/a

1. SMF = Single-mode fiber.

POWER CHARACTERISTICS

Input supply voltage	12vDC or 12-50vDC
Rated currents	.5A max.
Power consumption	24W max.

ENVIRONMENTAL SPECIFICATIONS

Operating Temp.	0°C to 40°C (32°F to 104°F)
Storage Temp.	-25°C to 70°C (-13°F to 158°F)
Relative humidity (Operating)	5% to 90% non-condensing
Relative humidity (Storage	5% to 95% non-condensing
Operating & Storage Altitude	Up to 3,048m (10,000ft)

PHYSICAL CHARACTERISTICS

Dimensions	10.5cm x 9.5cm x 2.5cm (4.12" x 3.75" x 1.0")
Weight	294g (10.4 oz)

ELECTRICAL/MECHANICAL APPROVALS

CE	IEEE 802.3, IEEE 802.3u
Safety	UL60950 (cULus) EN60950 EN60825 (TUV)
Emission	FCC Part 15 Class B EN55022 Class B
Immunity	EN55024

ORDERING INFORMATION

AT-FS238A/y-xx
2-port single strand fiber media converter,
10/100TX (RJ-45) to 100FX (SC)
(1310nm TX/1550nm RX)
with 12vDC power supply
(Must be ordered in pairs with AT-FS238B)

AT-FS238B/y-xx
2-port single strand fiber media converter,
10/100TX (RJ-45) to 100FX (SC)
(1550nm TX/1310nm RX)
with 12vDC power supply
(Must be ordered in pairs with AT-FS238A)

Where y = Multi-Mode fiber
= 1 Single-Mode fiber 15km
= 2 Single-Mode fiber 40km

Where xx = 10 for U.S. power cord
= 20 for Europe power cord
= 30 for U.K. power cord
= 40 for Australia power cord

ABOUT ALLIED TELESYN

Allied Telesyn was founded in 1987 with the goal of producing reliable, standards-based networking products. Focused on Ethernet/IP solutions geared to applications, Allied Telesyn offers access-edge products like switches, fiber/copper MAPs, and CPE. We're also a leading global manufacturer of media converters, unmanaged switches, and NICs. Our customer-driven approach has made Allied Telesyn the ideal choice for IT professionals looking for high-quality, feature-rich network solutions at a lower price. Allied Telesyn – It's Our Network, Too.
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